Support for the amendments to claims 1, 20, 21, 28, 29, 45, and 46 may be found, *inter alia*, in the specification at page 9 and in original claims 1, 20, 21, 28, 29, 45, and 46.

Support for the amendment to claim 39 may be found, *inter alia*, in claim 39 as originally filed. Claim 39 has been amended to correct an obvious typographical omission regarding claim language.

II. Status of the Claims

Claims 1-49 are pending in this Application. Applicants acknowledge that in response to Examiner's election requirement, claims 46-49 are unelected and withdrawn from consideration. Should the Examiner find the elected claims allowable, Applicants remind the Examiner of the obligation to rejoin the non-elected claims further to M.P.E.P. § 821.04.

Claims 1, 20, 21, 28, 29, 39, 45, and 46 have been amended. Claims 1, 20, 21, 28, 29, 45, and 46 have been amended only to further define the term "matrix material", as set forth in the specification. Claim 39 has been amended only to correct for a typographical omission. Accordingly, the amendments are supported by the claims and specification as originally filed, and therefore no new matter has been added. As required by 37 C.F.R. § 1.121(c)(1)(ii), Applicants have provided a marked-up version of the amended claims in the attached Appendix.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

III. Response to Restriction Requirement

In a restriction requirement presented with the Office Action dated November 19, 2002, the Examiner required election under 35 U.S.C. § 121 among the following Groups:

I. Group I, claims 1-45, drawn to an electronic support, classified in class 442, subclass 180;

II. Group II, claims 46-49, drawn to a method for making an electronic support, classified in class 427, subclass 389.8.

Applicants confirm their provisional election with traverse of Group I identified in paragraph 4 of the Office Action, and the list of claims readable thereon.

Applicants respectfully traverse the restriction requirement. In paragraph 2 of the Office Action, the Examiner asserts that inventions I and II are related as mutually exclusive species in a product-method of making relationship. The Examiner asserts that two criteria must be met, either singly or jointly, to maintain a restriction on this ground. The Examiner fails to acknowledge, however, that a third criterion must be met as well: There must be some serious burden on the Examiner in examining the claims together. M.P.E.P. § 803. In the present case, Applicants respectfully point out that such a burden does not exist, nor has the Examiner even alleged that it does.

Specifically, the Examiner has not provided any explanation in the Restriction Requirement why there would be a serious burden to examine all the groups together. The restriction requirement does not even mention, nor does it address, the requirement that the Examiner also identify a burden. The Examiner implied the existence of a

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

burden by classifying inventions I and II separately. It is Applicants' understanding, however, that a search of the identified classes and subclasses would not present a serious burden. Applicants therefore respectfully request that the Restriction Requirement be withdrawn.

IV. Rejection Under 35 U.S.C. §112, ¶ 2

During examination of claims for compliance with the definiteness requirement of 35 U.S.C. § 112, ¶ 2, the Examiner shall focus on "whether the claim meets the threshold requirements of clarity and precision, not whether more suitable language or modes of expression are available." M.P.E.P. § 2173.02. Further, "[a]cceptability of claim . . . language depends on whether one of ordinary skill in the art would understand what is claimed, in light of the specification." M.P.E.P § 2173.05(b). Therefore, if one of ordinary skill in the art would be reasonably apprised of the scope of the invention, in light of the specification, any rejection under 35 U.S.C. § 112, ¶ 2 is improper. *See id.*

A. "high" and "low"

The Examiner has rejected claims 9, 11, 19, 27, 29, 30, 40, 43, and 44 under 35 U.S.C. § 112, ¶ 2, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. According to the Examiner, "[t]he terms 'high' and 'low' . . . are relative terms that render these claims indefinite." Office Action at page 4. Applicants respectfully traverse this rejection for at least the following reasons.

The terms "high" and "low" are commonly used terms of art, and with the aid of the present specification would have reasonably apprised one of ordinary skill in the art

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

of the scope of the claimed invention. In claims 9 and 40, the phrase "high thermal conductivity" is defined in the present specification as "material having a thermal conductivity of at least 10 W/mK at 300K." In claims 11, 19, and 40 the phrase "low coefficient of thermal expansion" is defined in the present specification as having "a coefficient of thermal expansion (CTE) lower than that of the [glass fiber] reinforcement." In claims 19, 27, 30, 43, and 44 a filler that has a "high affinity for metal ions" is defined as "a filler material [that] has a tendency to complex with metal ions, adsorb metal ions on its surfaces and/or edges, entrap or encapsulate metal ions in its lattice structure and/or undergo ion exchange." In claim 40, the phrase "high electrical resistivity" is defined as "material [that] has an electrical resistivity of at least 1000 microohm-centimeters (μΩ-cm)." Thus, when taken in context, the terms "high" and "low" are, indeed, definite. Applicants respectfully request that this rejection be withdrawn.

B. "amount sufficient"

The Examiner has rejected claim 29 under 35 U.S.C. § 112, ¶ 2, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. According to the Examiner, "it is unclear . . . what the Applicant considers a 'sufficient amount' as well as being unclear as to whether electrical shorts are a function of the amount of inorganic filler present in the matrix or the thickness of the electrical support." Office Action at page 4. Applicants respectfully traverse this rejection for at least the following reasons.

Applicants submit that one of ordinary skill in the art would understand the scope of the term "sufficient amount" when read in the context of the claim language "inorganic

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

filler in an amount sufficient to inhibit electrical shorts due to conductive anodic filament formation through a thickness of the electronic support" and in view of the disclosure on pages 24 and 25 of the specification. *See* M.P.E.P. § 2173.05(b). Here, one of ordinary skill in the art would understand that the term "sufficient amount" means an amount of inorganic filler sufficient to inhibit the growth of electrically conductive filaments and the electrical shorts that result from their formation. Thus, when taken in context, the term "sufficient amount" is, indeed, definite. Therefore, Applicants respectfully request that this rejection be withdrawn.

V. Rejection Under 35 U.S.C. § 102(a)/103(a)

Claims 1-3, 5-37, and 39-45 stand rejected under 35 U.S.C. §102(a) as being anticipated by or in the alternative under 35 U.S.C. § 103(a) as being obvious over WO 99/44960 ("Novich") for reasons discussed at pages 5-7 of the Office Action. Applicants respectfully traverse this rejection for at least the reasons that follow.

A. Rejection of Claims 1-3, 5-37, and 39-45

1. *35 U.S.C. § 102(a) Rejection*

A rejection under §102 is proper only when the claimed subject matter is identically described or disclosed in the prior art. *In re Arkley*, 455 F.2d 586, 587 (C.C.P.A. 1972). "For anticipation under 35 U.S.C. § 102, the reference must teach every aspect of the claimed invention either explicitly or impliedly." M.P.E.P. § 706.02 (8th ed. 2001). The identical invention must be described in as complete detail as is contained in, and must be arranged as required by, the claim. M.P.E.P. § 2131. Indeed, in order to anticipate the claimed invention, a reference must "clearly and unequivocally

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

disclose the claimed compound or direct those skilled in the art to the compound without any need for picking, choosing and combining various disclosures." *In re Arkley*, 455 F.2d at 587. Importantly, the absence of a single element or limitation indicates the reference neither describes nor anticipates the claim. M.P.E.P. § 2131. In the present case, Novich fails to anticipate claims 1-3, 5-37, 39-45 of the presently claimed invention because the reference fails to describe every element that is included.

According to the Examiner, Novich teaches a "coated [glass] fiber strand having a primary layer of dried residue of an aqueous sizing composition applied to a portion of the surface of the glass fiber." Office Action at page 5. The Examiner describes the sizing composition as containing "solid lubricant particles, an epoxy-functional organo silane coupling agent, and thermoplastic/polymeric film forming material." *Id.* As a result of this composition, the Examiner states that Novich's *coated fiber strand* encompasses the presently rejected claims.

Conspicuously absent from Novich is the existence of at least one inorganic filler comprised in at least one *matrix material* as presently claimed. Since Novich does not provide for the existence of filler material in its matrix material, Novich does not teach every aspect of the claimed invention either explicitly or impliedly. Applicants therefore respectfully request that the Examiner withdraw the § 102(a) rejection of claims 1-3, 5-37, and 39-45, which are allowable over Novich.

2. 35 U.S.C. § 103(a) Rejection

The Examiner acknowledges the absence of filler material comprised in the matrix material of Novich (*See* Office Action at page 6) yet attempts to reconcile by stating that, in the alternative, claims 1-3, 5-37, and 39-45 stand rejected under 35

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

U.S.C. § 103(a) as obvious over Novich. In doing so, the Examiner has the initial burden of presenting a prima facie case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). To meet this burden, the Examiner must show that the prior art reference (1) teaches all the present claim limitations; (2) would have suggested to or provided motivation for one of ordinary skill in the art to make the claimed invention; and (3) would have provided one of ordinary skill with a reasonable expectation of success in so making. *See In re Vaeck*, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991) (*citing In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988)); *see also* M.P.E.P. §2143. Furthermore, "[b]oth the suggestion and the reasonable expectation of success must be found in the prior art reference, not in the applicant's disclosure." *In re Vaeck* at 1442. Here, Applicants respectfully submit that the rejections under §103 are fatally flawed because Novich does not meet the requirements for a prima facie case of obviousness under § 103.

In attempting to extrapolate Novich to claims 1-3, 5-37, and 39-45 of the present invention, the Examiner asserts that the *sizing composition* of Novich, which contains inorganic particulate material, is analogous to the at least one *matrix material* of the presently claimed invention. The Examiner declares that even though Novich teaches the further addition of a matrix material that does not contain inorganic particulate material to a fabric created with such sizing composition, it is reasonable to presume that Novich's *sizing* composition containing inorganic particulate material "functions in the same capacity as the *matrix* composition [of the presently claimed invention]. . . . As such, the Examiner fails to see a difference between the Applicant's *matrix* composition

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

and the sizing composition of Novich et al." Office Action at page 6 (emphasis in original).

Contrary to the conclusion of the Examiner, Applicants respectfully submit that there is a difference between the teachings of Novich and claims 1-3, 5-37, and 39-45 of the presently claimed invention. The sizing composition in Novich is a coating applied to individual fibers prior to their being woven into a fabric matrix, serving to inhibit abrasion and breakage of glass fibers during weaving operations. WO 99/44960, page 11, lines 5-11. In addition, the sizing composition does not appreciably deteriorate during processing and is compatible with a wide variety of polymeric matrix materials. WO 99/44960, page 9, lines 4-6. The coating does not, however, serve the function of a matrix material.

The matrix materials of Novich are added to a fabric subsequent to the addition of any sizing composition and function to impregnate woven reinforcing fabrics, providing the fabric with necessary mass and rigidity. WO 99/44960, page 31, lines 10-13. Whereas sizing is a very thin coating, existing primarily in two dimensions, matrix materials are utilized to provide three-dimensional structure and form to the delicate, unshaped fabric, whose individual fibers are coated with a thin layer of sizing material. Consequently, the Examiner is incorrect in stating that a matrix material is identical to and functions in the same capacity as the sizing composition in Novich.

This distinction between sizing and matrix materials is further reinforced by the prior art cited by the Examiner. Novich recognizes the existence of both sizing compositions and matrix materials as separate entities, comprising different structures and performing different functions. *See* WO 99/44960, page 11, lines 5-11 and page

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

30, line 16 to page 31, line 13. Additionally, independent claims 1, 20, 21, 28, 29, and 45 of the presently claimed invention have been amended such that component B of each claim is drawn to, in relevant part,

> ", at least one matrix material in contact with at least a portion of the at least one woven fiber reinforcement material, wherein said at least one matrix material is chosen from ceramics, glass ceramics, and macromolecules composed of long chains of atoms that are linked together and that can become entangled in solution or the solid state".

By so defining the at least one matrix material of the instant invention, Applicants further define the three-dimensional aspect of a matrix material as set forth in the specification, and this definition further differentiates the present invention from the prior art. As such, the sizing composition in Novich, being primarily a thin coating for individual fibers, cannot anticipate the three-dimensional aspect of a matrix material. Accordingly, because the prior art clearly fails to teach or suggest all of the present claim limitations, Applicants respectfully submit that the rejection is in error and that it be withdrawn.

Furthermore, the Examiner has not demonstrated a suggestion or motivation for modifying the teachings of Novich to arrive at claims 1-3, 5-37, and 39-45 of the presently claimed invention. The Examiner states that "it is reasonable to presume that [the sizing composition of Novich] functions in the same capacity as the Applicant's *matrix* composition." Office Action, page 6 (emphasis in original). This disclosure, however, is far from the objective reasoning that is necessary when asserting obviousness from prior art and certainly does not meet the "clear and particular" standard required by the Federal Circuit. *In re Dembiczak*, 175 F3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). Rather, the Examiner has failed to point to any teaching, suggestion, or incentive that would lead to Applicants' claimed invention.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

Thus, the rejection fails because it does not meet the second requirement for demonstrating obviousness, that being a demonstration of a suggestion or motivation to make the invention defined by claims 1-3, 5-37, and 39-45 of the presently claimed invention.

Finally, the Examiner does not suggest, or even imply, any evidence that the teachings of Novich would provide one of ordinary skill in the art with a reasonable expectation of success in making the present invention. Rather, as mentioned in support of motivation to combine, the Examiner states that "it is reasonable to presume that [the sizing composition of Novich] functions in the same capacity as the Applicants' *matrix* composition." Office Action, page 6 (emphasis in original). Such a statement, however, is conclusory in light of the general teachings of the prior art, from which the Examiner surmises that a particular article of art will perform in a certain manner, in order to obtain the claimed invention. The Federal Circuit has recently held that the Patent Office must not only "assure that the requisite findings [of motivation] are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion." *In re Lee*, 277 F.3d 1338, 1344, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Thus, the Examiner's silence in this regard implies a reliance on "common knowledge and common sense." Such reliance, however, does not fulfill the Office's obligation to cite references to support its conclusions. *Id.* at 1344, 61 U.S.P.Q.2d at 1434.

At best, the reference leads one to try to obtain the claimed invention. In moving from the prior art to the claimed invention, however, one cannot base a determination of obviousness on what the skilled person might *try* or find obvious *to try*. Rather, the

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

proper test requires determining what the prior art would have led the skilled person *to do*. In the present case, the prior art, at best, provides general guidance to utilize inorganic filler material in *sizing* compositions from among the broad disclosure of the prior art.

Thus, while the prior art may make it obvious to try to incorporate inorganic particulate material into the at least one matrix material to arrive at the claimed invention, such an obvious to try standard does not support a rejection under 35 U.S.C. § 103. *Ecolochem, Inc. v. Southern Cal. Edison Co.*, 227 F.3d 1361, 1374, 56 U.S.P.Q.2d 1065, 1075 (Fed. Cir. 2000).

Accordingly, Applicant submits that the Examiner has failed to satisfy the burden of establishing a prima facie case of obviousness with respect to claims 1-3, 5-37, and 39-45 of the presently claimed invention, and respectfully requests that all § 103 rejections be withdrawn.

B. Rejection of Claims 3, 22, and 32

With respect to claims 3, 22, and 32, by stating in part that Novich fails to "teach removing the sizing composition," the Examiner fails to acknowledge that absent from Novich is the unambiguous teaching that the aqueous sizing composition, with which the glass fiber strands are treated, is resin compatible. As such, the Examiner's rejection under § 102 fails since the claimed subject matter is not identically described or disclosed in the prior art. *In re Arkley*, 455 F.2d 586, 587 (C.C.P.A. 1972).

In lieu of such a specific indication that Novich possesses a resin compatible coating, the Examiner states that "it is *obvious* that the woven glass fiber reinforcement of Novich et al., is non-greased." Office Action at page 6 (emphasis added). However,

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

by stating that such a finding is obvious, the Examiner fails to realize that for a prima facie case of obviousness, one requirement is that the rejected matter teach or suggest all the present claim limitations. *See In re Vaeck*, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991) (*citing In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988)); *see also* M.P.E.P. §2143. By specifically stating that such a rejection is *implied* by the teachings of Novich, the Examiner is admitting that Novich does not literally teach all the presently rejected claim limitations.

The Examiner's rejection of claims 3, 22, and 32, therefore, is based on implication. However, in making this rejection based on implication, the Examiner fails to consider the claimed invention as a whole. *Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 n.5, 229 U.S.P.Q. 182, 187 n.5 (Fed. Cir. 1986); *see also* M.P.E.P. § 2141. When this is done, it is found that independent claims 1, 20, 21, 28, 29, and 45 have been amended as detailed previously to further distinguish the presently claimed invention from the Examiner-cited prior art. Since it is imperative that claims 3, 22, and 32 be read in light of independent claims 1, 21, and 29 that they respectively depend from, Applicants respectfully submit that Novich does not teach or suggest *all* the present claim limitations found in the presently rejected claims. Thus, Applicants respectfully submit that these rejections are improper and respectfully request that they be withdrawn.

C. Rejection of Claims 11, 12, 24, 33, 34, 36, and 37

Furthermore, with respect to the rejection of claims 11, 12, 24, 33, 34, 36, and 37, the Examiner states that "although the prior art of record does not explicitly teach the claimed [properties] . . . it is reasonable to presume that said properties are inherent

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

to the invention of Novich et al." Office Action at page 6. This disclosure, however, is far from the objective reasoning that is necessary when asserting anticipation under 35 U.S.C. § 102. By specifically stating that "it is reasonable to presume" that such properties are "inherent" to Novich, the Examiner is admitting that all the presently rejected claim limitations are not specifically taught by Novich and cannot be anticipated under § 102.

Nevertheless, like the rejections of claims 3, 22, and 32, the Examiner does not consider the claimed invention as a whole in the § 103 obviousness rejection of claims 11, 12, 24, 33, 34, 36, and 37. As with the previous rejection of claims 3, 22, and 32, when this is done it is found that independent claims 1, 20, 21, 28, 29, and 45 have previously been amended to distinguish them from Novich. Since it is imperative that claims 11, 12, 24, 33, 34, 36, and 37 be read in light of independent claims 1, 21, and 29 that they respectively depend from, Applicants submit that Novich does not teach or suggest *all* the present claim limitations found in the presently rejected claims. Thus, Applicants respectfully submit that these rejections are improper and respectfully request that they be withdrawn.

VI. Rejection Under 35 U.S.C. §103(a) Over Novich in View of Sproull

Claim 4 has been rejected under 35 U.S.C. §103(a) as unpatentable over WO 99/44960 to Novich et al. ("Novich") in view of U.S. Patent No. 4,542,106 to Sproull ("Sproull"). Applicants respectfully traverse this rejection for at least the reasons set forth below.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

Applicants submit that the Examiner has not and cannot show, at a minimum, that there would have been a suggestion or motivation in the references or in the knowledge generally available to one of ordinary skill in the art to modify and/or combine the references in order to recreate Applicants' invention. M.P.E.P. § 2143.03.

In making this rejection, the Examiner has a duty to make explicit factual findings as evidence of a motivation to combine references. These factual findings must be "clear and particular." *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). In this case, the Examiner has provided no such evidence.

Neither Novich nor Sproull teach or even remotely suggest a motivation to combine their teachings. As the Examiner correctly points out, Novich, the primary reference, fails to teach a glass composition comprising Fe_2O_3. Since Novich fails to teach such a glass composition, the Examiner states that one would be motivated to modify the primary reference by incorporating aspects of Sproull. Specifically, the Examiner states that "motivated to have glass fibers with excellent tensile strength and electrical properties it would have been obvious to one having ordinary [skill] in the art at the time of the invention was made to use the novel glass compositions taught by Sproull, in the electrical support of Novich et al." Office Action at page 7.

This disclosure, however, is far from the objective reasoning that is necessary when asserting obviousness from a combination of references and certainly does not meet the "clear and particular " standard required by the Federal Circuit. *In re Dembiczak*, 175 F3d at 999, 50 U.S.P.Q.2d at 1617. Rather, the Examiner has neglected to point to any teaching, suggestion, or incentive that would lead to Applicants' claimed invention.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

Moreover, Novich's coated glass fiber strands work perfectly well without a need for restriction on Fe_2O_3 content in the glass and its disclosure provides no indication to one of ordinary skill in the art that this glass is in need of modification. Indeed, the Novich specification states that E-glass or E-glass derivatives are preferred. WO 99/44960, page 9, line 29. As a result, Novich provides no suggestion or motivation to substitute glass containing a restriction on Fe_2O_3 for the glass contained within the piece of art.

Sproull does not remedy the deficiencies of Novich. Although Sproull does teach a glass fiber that contains trace amounts of an Fe_2O_3 impurity, the reference does not provide any motivation for substituting its glass fiber for the fibers taught in Novich. While Novich teaches a preference for E-glass or E-derivative groups, there is no requirement that a glass of the composition found in Sproull be used. Whereas it might be tempting, in hindsight, for the Examiner to suggest that a glass fiber strand, as claimed by Applicants, is obvious in light of Novich, there is no suggestion or motivation in Novich for a fiber strand containing trace amounts of Fe_2O_3, nor is there a suggestion for the desirability of such a fiber.

Moreover, such a hindsight reconstruction analysis is improper. *See In re Dembiczak,* 175 F.3d at 999, 50 U.S.P.Q.2d at 1617. Thus, the rejection fails because it does not meet the second requirement for demonstrating obviousness, that being a demonstration of a suggestion or motivation to combine the references. For this reason, Applicants submit that this rejection is improper and respectfully request that it be withdrawn.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

VII. Rejection Under 35 U.S.C. §103(a) Over Novich in View of Satoshi

Similar to Claim 4, Claim 38 has been rejected under 35 U.S.C. § 103(a) as unpatentable over WO 99/44960 to Novich et al. ("Novich") in view of Japanese Patent Abstract, Publication No. 07-276563 to Satoshi et al. ("Satoshi"). Applicants respectfully disagree and traverse this rejection for at least the reasons set forth below.

Regarding Satoshi, the Examiner states that the reference "discloses a substrate sheet impregnated with a thermosetting resin comprising inorganic filler and a chelating agent" and that this chelating agent can be used to overcome the lack of such agent in Novich. Office Action at page 8. The Examiner then concludes that Applicants' composition would have been obvious because one would have been "motivated to immobilize generated ions in order to prevent electrolytic corrosion". Office Action at page 8.

As with the Sproull reference, with Satoshi the burden to establish a motivation to combine references has not been met by the Examiner. Again, neither Novich nor Satoshi teach or even remotely suggest a motivation to combine their teachings and, moreover, fail to provide one a reasonable expectation of success of obtaining the invention. In particular, Novich is drawn to a system of fiber strands coated with a coating that not only inhibits abrasion and breakage of the fibers during weaving operations, but also is compatible with a wide variety of matrix materials. Nothing is mentioned or alluded to in Novich about minimizing "electrolytic corrosion" or the presence of or desire for a chelating agent to accomplish this purpose. In citing Satoshi, the Examiner does not provide *any* evidence of why one would be motivated to combine Satoshi with Novich, simply stating that "in order to prevent electrolytic

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

corrosion it would have been obvious to use [in Novich] a chelating agent as taught by Satoshi. . . . "

This disclosure, however, is far from the objective reasoning that is necessary when asserting obviousness from a combination of references and certainly does not meet the "clear and particular" standard required by the Federal Circuit. *In re Dembiczak*, 175 F3d at 999, 50 U.S.P.Q.2d at 1617. As with the Sproull reference, the Examiner has failed to point to any teaching, suggestion, or incentive that would lead to Applicants' claimed invention. The rejection therefore fails because it does not meet the required demonstration of a suggestion or motivation to combine the references. For this reason, Applicants submit that this rejection is improper and respectfully request that it be withdrawn.

VIII. Conclusion

In view of the foregoing remarks, Applicants respectfully submit that all pending claims, as amended or presented, are in condition for allowance. Therefore, Applicants respectfully request the Examiner's reconsideration of the application, and the timely allowance of the pending claims.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, L.L.P.

Dated: February 19, 2003

By: _____
Mark D. Sweet
Reg. No. 41,469

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

THE APPENDIX TO THE AMENDMENTS OF February 19, 2003

Version with Markings to Show Changes Made

Amendments to the Title

Please amend the title of the application as follows:

(Amended) Electronic Supports **[and Methods]** and Apparatus for Forming Apertures in Electronic Supports

Amendments to the Claims

Please amend claims 1, 20, 21, 28, 29, 45, and 46 as follows:

1. (Amended) An electronic support comprising:

A. at least one woven fiber reinforcement material formed from at least one fiber free of basalt glass; and

B. at least one matrix material in contact with at least a portion of the at least one reinforcement material**, wherein the at least one matrix material is chosen from ceramics, glass ceramics, and macromolecules composed of long chains of atoms that are linked together and that can become entangled in solution or the solid state**, the at least one matrix material comprising at least one non-fluorinated polymer and at least one inorganic filler, wherein the at least one inorganic filler comprises at least one non-hydratable, lamellar inorganic solid lubricant having a high

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

electrical resistivity and wherein the at least one inorganic filler comprises at least 6 weight percent of a total combined weight of the at least one inorganic filler and the at least one matrix material on a total solids basis.

20. (Amended) An electronic support comprising:

A. at least one woven fiber reinforcement material; and

B. at least one matrix material in contact with at least a portion of the at least one reinforcement material**, wherein the at least one matrix material is chosen from ceramics, glass ceramics, and macromolecules composed of long chains of atoms that are linked together and that can become entangled in solution or the solid state**, the at least one matrix material comprising at least one non-fluorinated polymer and at least one inorganic filler, wherein the at least one inorganic filler comprises at least one non-hydratable, lamellar inorganic solid lubricant having a high electrical resistivity and wherein the at least one inorganic filler comprises greater than 10 weight percent of a total combined weight of the at least one inorganic filler and the at least one matrix material on a total solids basis.

21. (Amended) An electronic support comprising:

A. at least one woven fiber reinforcement material formed from at least one fiber free of basalt glass; and

B. at least one matrix material in contact with at least a portion of the at least one reinforcement material**, wherein the at least one matrix material is chosen from ceramics, glass ceramics, and macromolecules composed of long chains of**

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

atoms that are linked together and that can become entangled in solution or the solid state, the at least one matrix material comprising at least one non-fluorinated polymer and at least one inorganic filler, wherein the at least one inorganic filler comprises at least one inorganic filler having a thermal conductivity of at least 30 W/mK and a high electrical resistivity and wherein the at least one inorganic filler comprises at least 6 weight percent of a total combined weight of the at least one inorganic filler and the at least one matrix material on a total solids basis.

28. (Amended) An electronic support comprising:

A. at least one woven fiber reinforcement material; and

B. at least one matrix material in contact with at least a portion of the at least one reinforcement material**, wherein the at least one matrix material is chosen from ceramics, glass ceramics, and macromolecules composed of long chains of atoms that are linked together and that can become entangled in solution or the solid state**, the at least one matrix material comprising at least one non-fluorinated polymer and at least one inorganic filler, wherein the at least one inorganic filler comprises at least one inorganic filler having a thermal conductivity of at least 30 W/mK and a high electrical resistivity and wherein the at least one inorganic filler comprises greater than 10 weight percent of a total combined weight of the at least one inorganic filler and the at least one matrix material on a total solids basis.

29. (Amended) An electronic support comprising:

A. at least one fiber reinforcement material; and

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

B. at least one matrix material in contact with at least a portion of the at least one woven fiber reinforcement material, **wherein the at least one matrix material is chosen from ceramics, glass ceramics, and macromolecules composed of long chains of atoms that are linked together and that can become entangled in solution or the solid state**, the matrix material comprising at least one inorganic filler in an amount sufficient to inhibit electrical shorts due to conductive anodic filament formation through a thickness of the electronic support.

39. The electronic support according to claim 30, wherein the at **least one** inorganic filler is an expansible clay mineral.

45. (Amended) An electronic support comprising:

A. at least one woven fiber reinforcement material; and

B. at least one matrix material in contact with at least a portion of the at least one woven fiber reinforcement material, **wherein the at least one matrix material is chosen from ceramics, glass ceramics, and macromolecules composed of long chains of atoms that are linked together and that can become entangled in solution or the solid state**, the matrix material comprising at least one inorganic filler selected from a material having a cation exchange capacity of at least 20 meq/100 g, an expansible clay mineral, and combinations thereof.

46. (Amended) A method of forming an electronic support, the method comprising:

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

A. combining at least one inorganic filler with at least one solvent material;

B. dispersing the at least one inorganic filler and the at least one solvent material in an at least one matrix material, **wherein the at least one matrix material is chosen from ceramics, glass ceramics, and macromolecules composed of long chains of atoms that are linked together and that can become entangled in solution or the solid state**;

C. contacting the at least one matrix material comprising the at least one inorganic filler dispersed therein with at least one reinforcement material to form a prepreg layer; and

D. at least partially setting the at least one matrix material of the prepreg layer.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com